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Advanced Metering Infrastructure (AMI) System
Home Display Unit (HDU) & Energy Management Unit (Repeater)
User Manual

HDU Model No.：RZTS7100 Rev 1.0

Repeater Model No.：RLY220T Rev 1.0

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CONTENT

1. INTRODUCTION.....- 3 -

2. GETTING STARTED .....- 3 -

3. QUICK GUIDE.....- 4 -

4 IMPORTANT INSTRUCTION .....- 14 -

5 FAQ.....- 14 -

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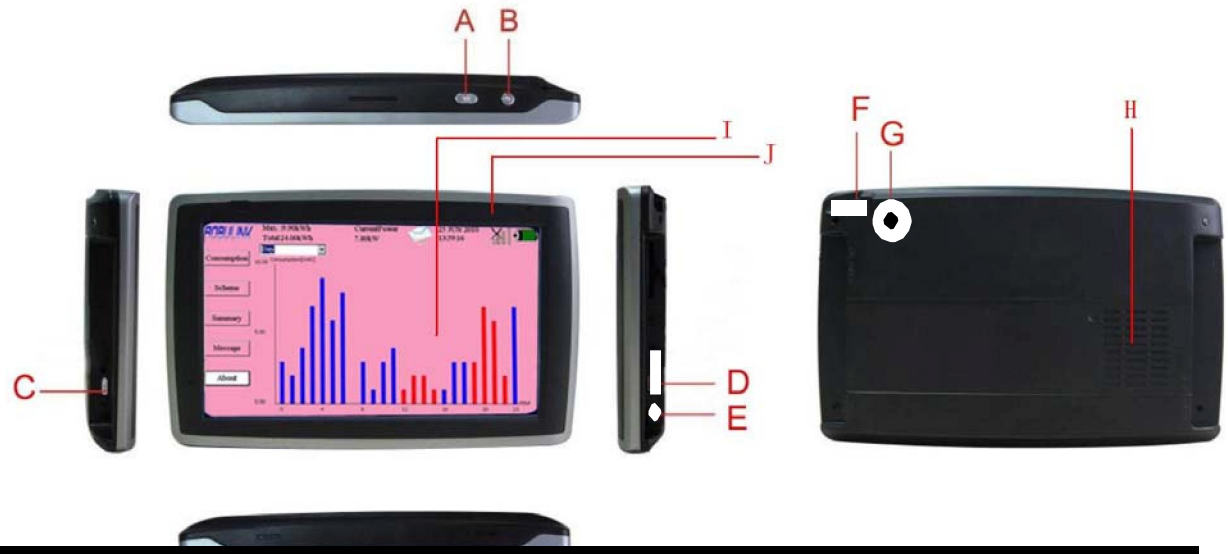
1 Introduction

The Home Display Unit (HDU) and Repeater are designed to monitor the energy consumption of home appliances by the AMI system. It may help you build a greener future.

On-Peak:
Monday - Saturday
12:00-15:00, 19:00-22:00 (Exclude Public Holiday)
Off-Peak:
All other hours (Include Public Holiday)

2 Getting Started

2.1 HDU overview



Item	Name
A	Menu
B	Power/Sleep Switch
C	Screen Lock
D	USB/SD (System upgrade only)
E	DC Jack
F	Stylus
G	Antenna pedestal
H	Speaker
I	7.0” LCD
J	Charger indicator

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2.2 HDU Feature

A）The On-peak and Off-peak period identification
Pink background is for On-peak period; Green background is for Off-peak period.

B）New message alarm (section 3.4). When a new message is arrived, background music will be played. The message logo will keep on flashing until user acknowledgement.

C）Numerical display indicates energy consumption and CO_2 emission

D）Current power display

E）Message review (section 3.5.3)

3 Quick Guide

3.1 Installation

3.1.1 HDU stand installation

Place the HDU stand on a horizontal position

3.1.2 Antenna installation

Screw antenna to the antenna pedestal at the back of HDU in clock wise direction

Screw antenna to the antenna pedestal at the back of Repeater in clock wise direction

3.1.3 Charging of HDU

Connect the power adapter to the DC socket of the HDU and insert the plug to a socket outlet. The HDU charging indication light should be red under charging period; it will change to green after fully charged

Charge the HDU for at least 8 hours for the first time use.

3.2 Power On/Off

Power On: When the apparatus is at “Off” condition, press “power switch” for more than 3 seconds to turn on the HDU. The main interface will display after 18 seconds.

Sleep mode: When the apparatus is at “On” condition, press “power switch” until the LCD display shows “sleep”. It will turn to sleep mode. It will resume after pressing “power switch” for more than 2 seconds.

Power Off: When the apparatus is at “On” condition, keep on pressing the “power switch” after LCD display show “sleep”. The LCD will show “Power Off” afterward. Then release the switch, the apparatus will turn off. If the apparatus was switched off for more than 3 days, some new consumption data will be lost.

Attention: In case of low battery, system will produce warning sound continuously and then fall to sleep mode automatically. HDU will turn off if it didn’t recharge immediately.

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3.3 Connection of network

3.3.1. Connect the Repeater to supply；

Connect the power adapter to the DC socket of the Repeater and insert the plug to a socket outlet. The red indication light will turn on to indicate the supply is connected

3.3.2. Place the Repeater to a suitable location with strong signal. The “Action” indication light will turn “On” once the network is connected

3.3.3. LCD of HDU will indicate the signal condition after turning on 5 minutes (1-4 points) means the network is connected. The (0 point) means the network connection is not yet ready; please check the connection of the power adapter and the “Action” indication light

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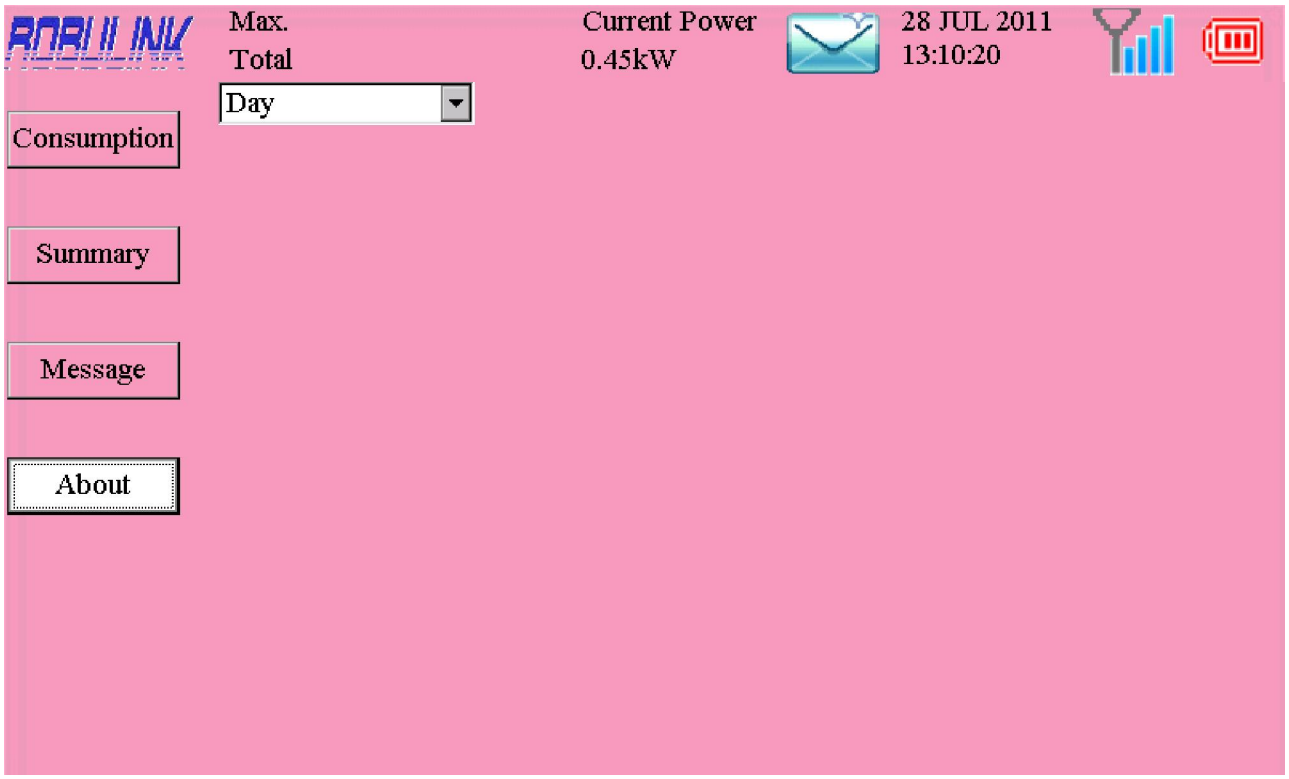
3.4 System interface introduction

When the apparatus is in off condition, press “power switch” for more than 3 seconds to turn on the HDU, the LCD will show the interface as below:

Select”Day” after 15 seconds, LCD will show the following interface:



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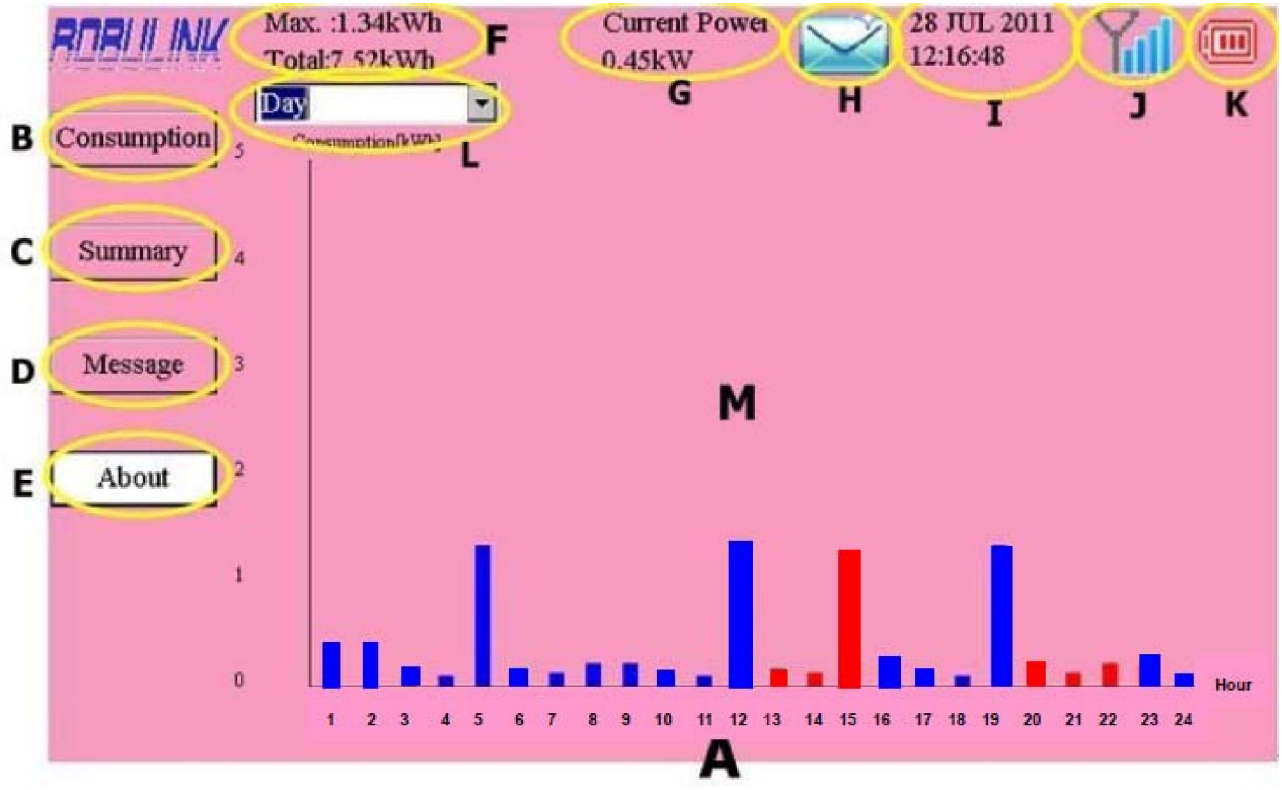
Click the arrow button "L" and then click "Day", LCD will show the following interface:



A) Main interface

If the current time is in On-peak period, the background color is pink. Otherwise, the background color is green (Pink is the default background color)

B) Energy consumption description

Item "L"	Main interface	Item	
		Max.	Total
Day	Day	Energy consumption of the highest consumption hour of today	Total energy consumption of today
Last 7 Days	Last 7 Days	Energy consumption of the highest consumption day of last 7 days	Total energy consumption of last 7 days
Month	Month	Energy consumption of the highest consumption day of this month	Total energy consumption of this month
Last 13 months	Last 13 months	Energy consumption of the highest consumption month of last 13 months (Not include this month)	Total energy consumption of last 13 months

C) Energy consumption summary (Summary)

D) News (Message)

E) Product information (About)

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F) Energy consumption of selected period/time (Max & Total)

G) Current power

H) Message indication: When a new message is arrived, the message Indicator will flash continuously. The indicator will go out only when the message is acknowledged

I) Date & time

J) System signal indication

K) Battery indicator

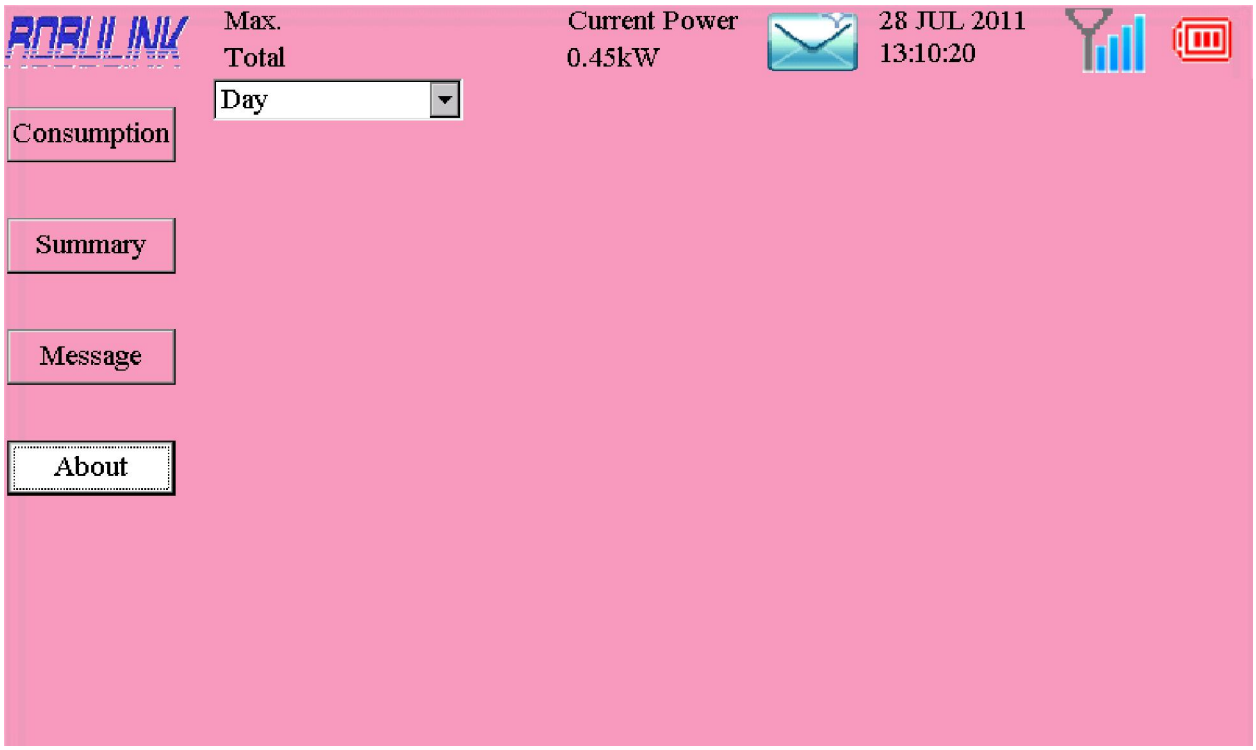
L) Historical energy consumption selection button

M) Energy consumption histogram; Horizontal axis for time; Vertical axis for energy consumption

3.5 System interface operation

3.5.1 Energy consumption (Consumption)

The following show the initial interface of LCD



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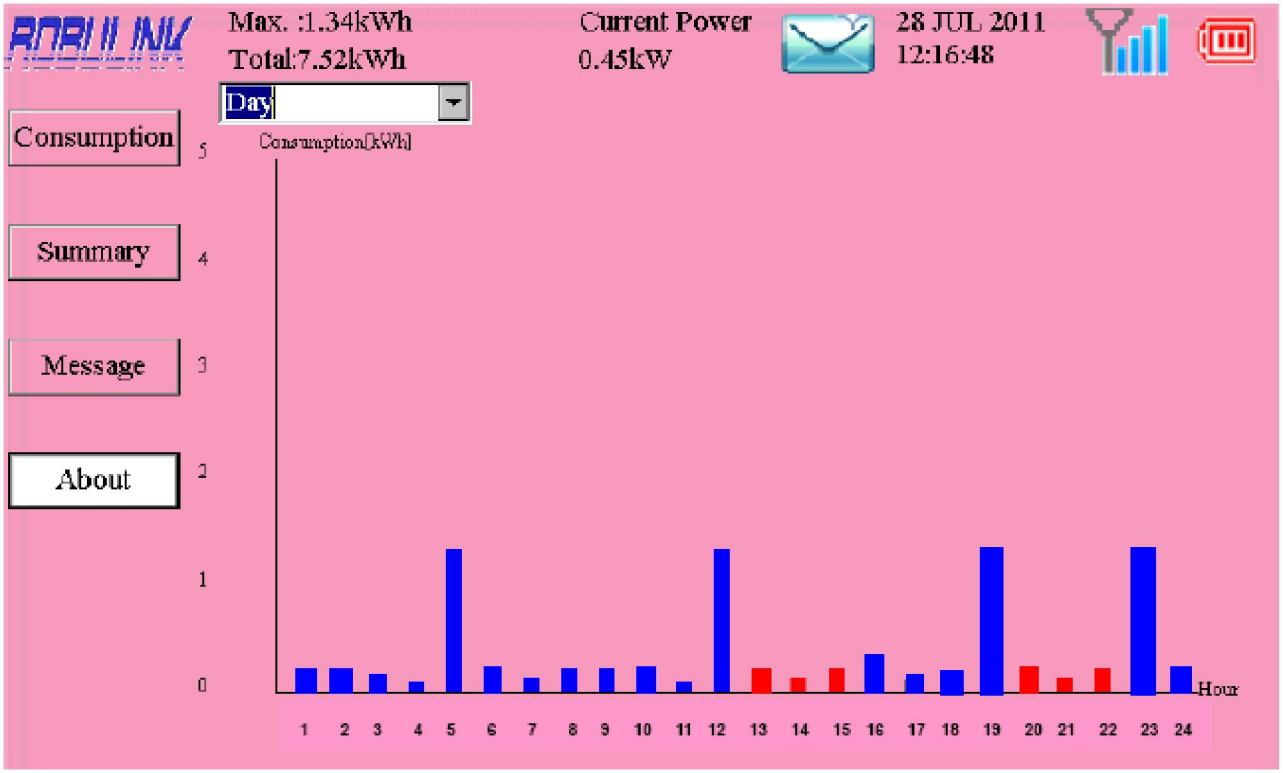
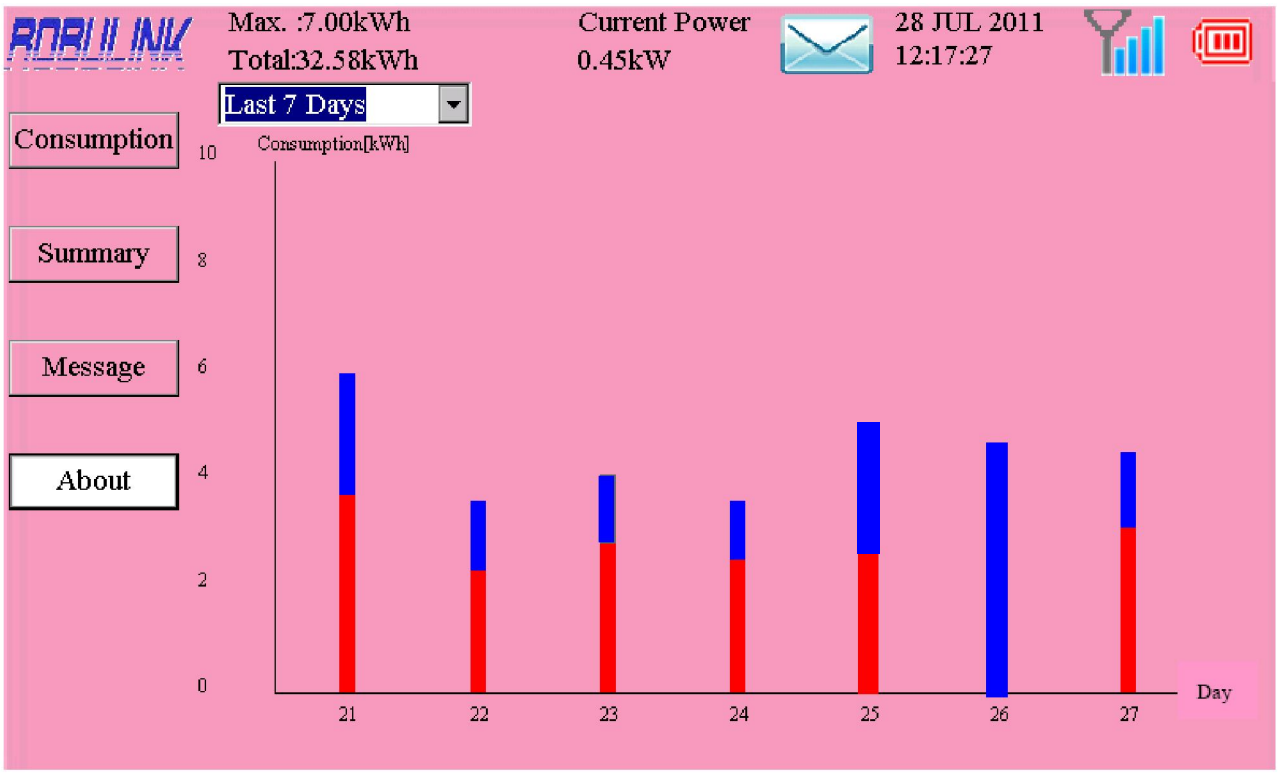
Click the “L” button and select “Day”, LCD will show the following interface:



This interface shows today’s hourly energy consumption *

Click the “L” button, it can choose energy consumption of “Last 7 Days”, “Month” and “Last 13 Months” Select “Last 7 Days”, LCD will show the following interface:



This interface shows daily energy consumption in the last 7 days *

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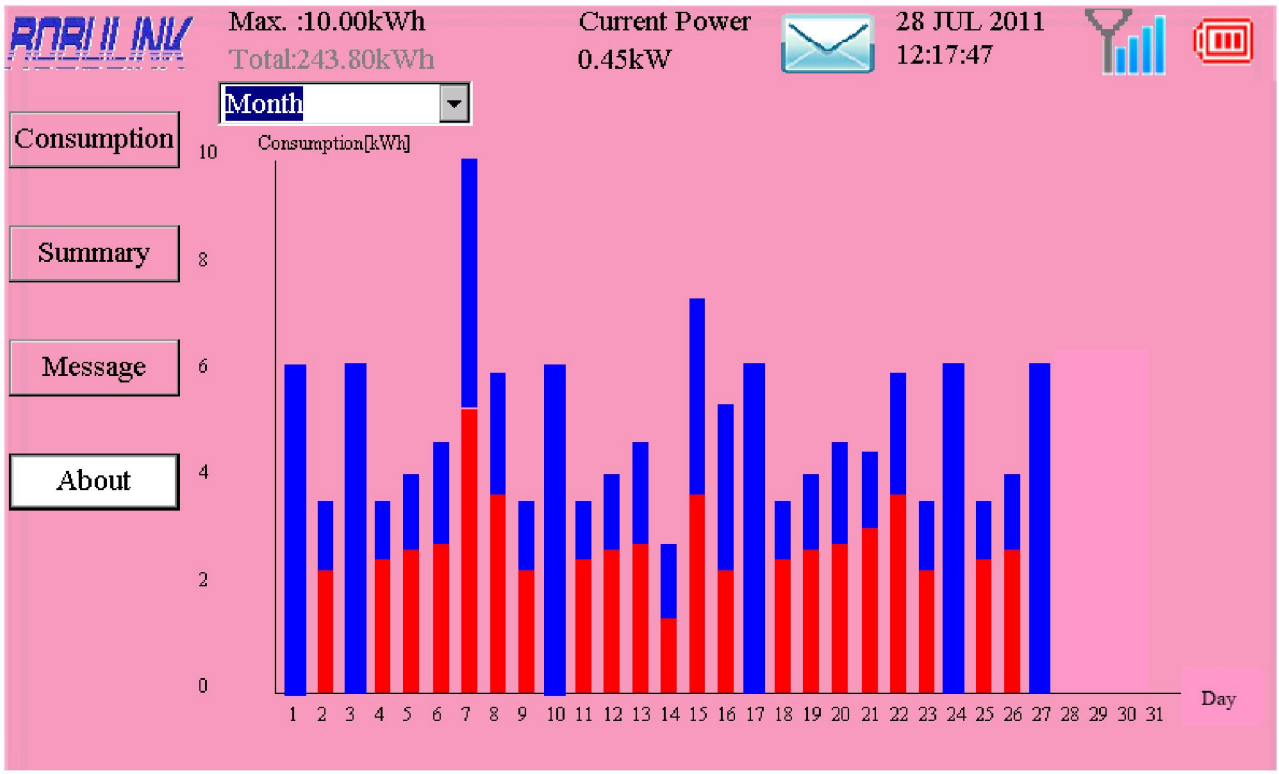
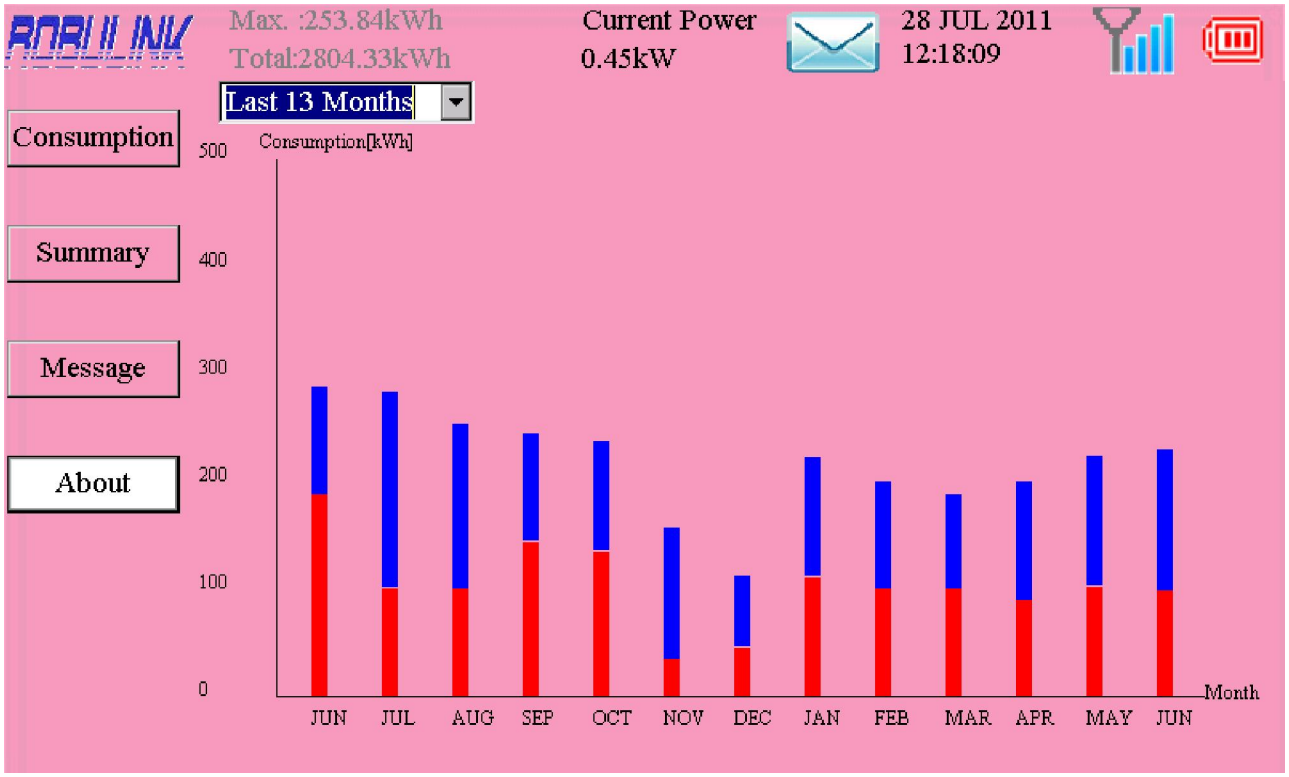
Select “Month”, LCD will show the following interface:



This interface shows the daily energy consumption of this month*

Select “Last 13 Months”, LCD will show the following interface:



This interface shows monthly energy consumption in the last 13 months *

* Red is for on-peak period, blue is for off-peak period

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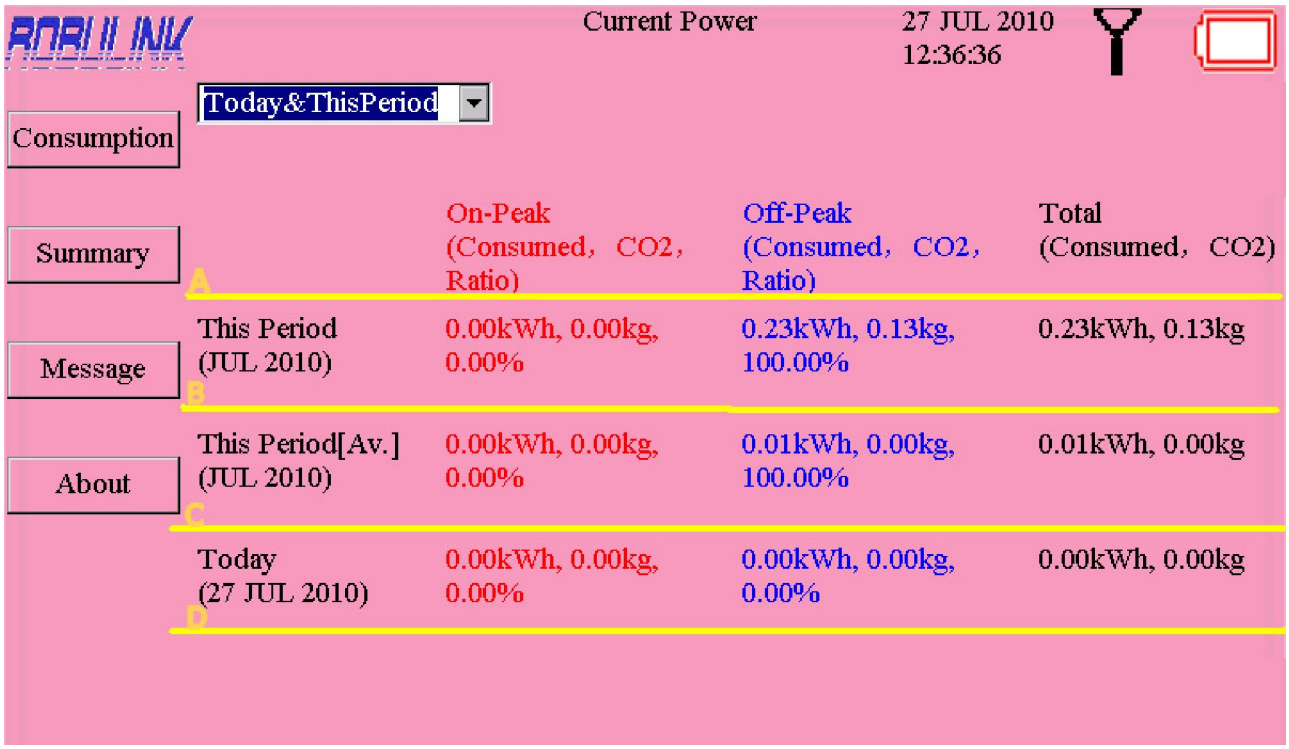
3.5.2 Energy consumption summary (Summary)

Click “Summary” button, LCD will show the following interface:



A: Information of Energy consumption in on-peak period, CO2 emission and ratio of on-peak period; Energy consumption in off-peak period, CO2 emission and ratio of off-peak period; Total energy consumption and CO2 emission

B: Values of “A” start from the first day of this month to now

C: Average daily values of “A” start from the first of this month to now

D: Values of “A” for today

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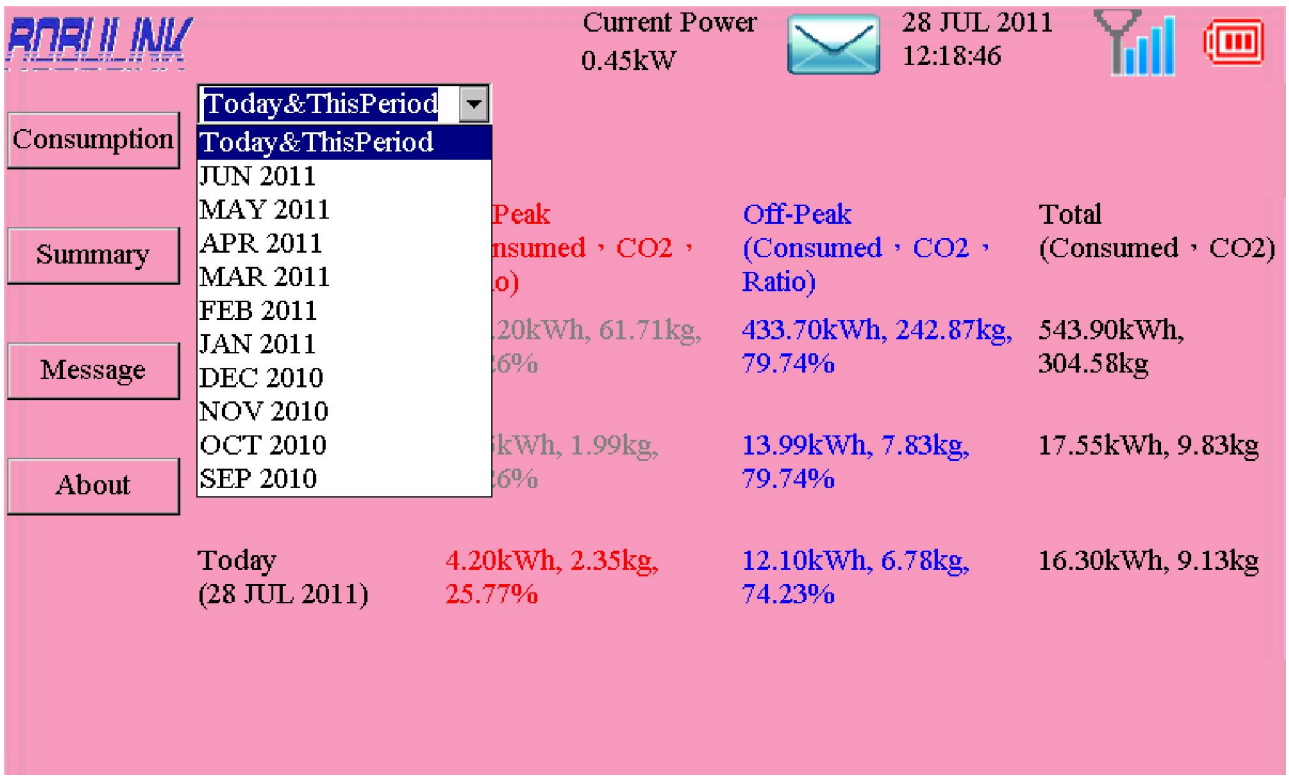
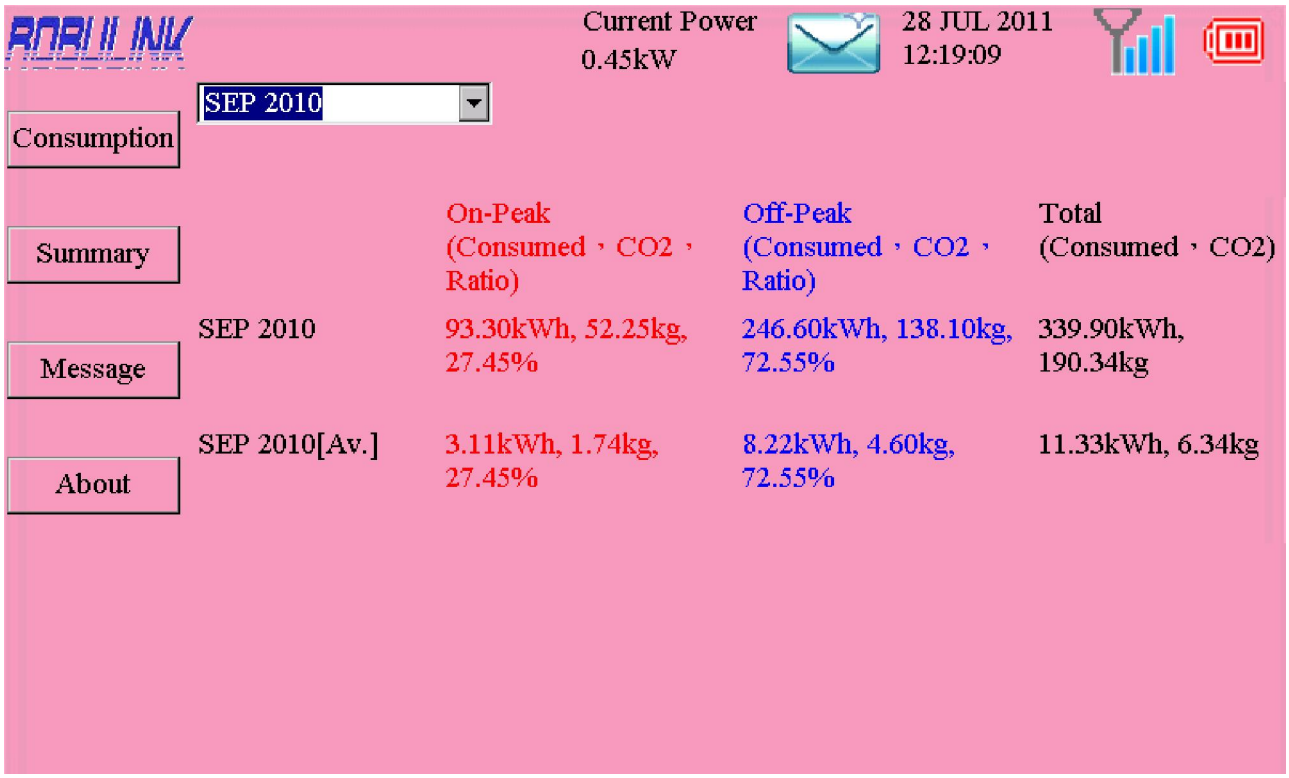
Click “L” button to review the monthly energy consumption status:



Click on “Sept 2010” will show the monthly energy consumption and CO_2 emission data of Sep 2010:



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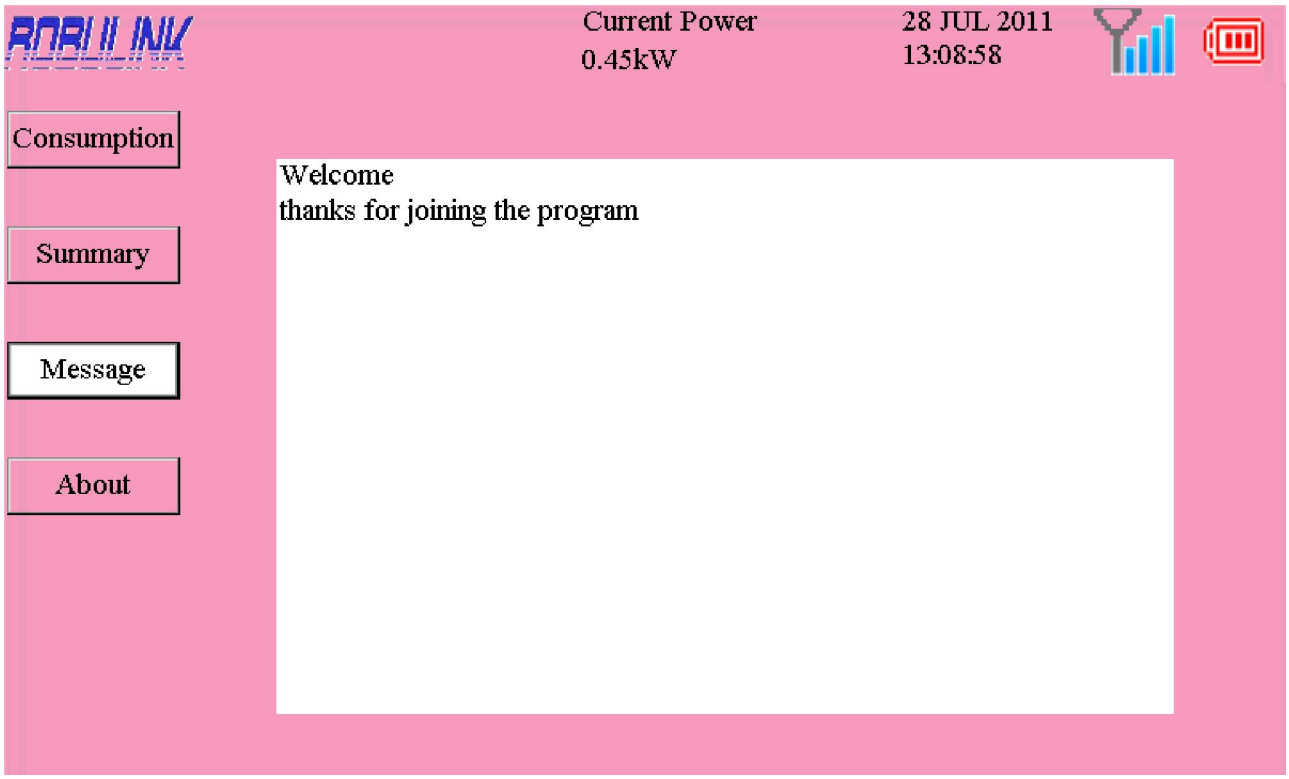
3.5.3 News (Message)

Click message button, the interface will show the last 50 messages as below:



Remark:

* In case of missing data, the final data may not be accurate. System will display the data and bar in grey. If the missing data could not be recovered within 30 minutes.

3.5.4 Product information (About)

Click About button, the interface will show the product information as below:

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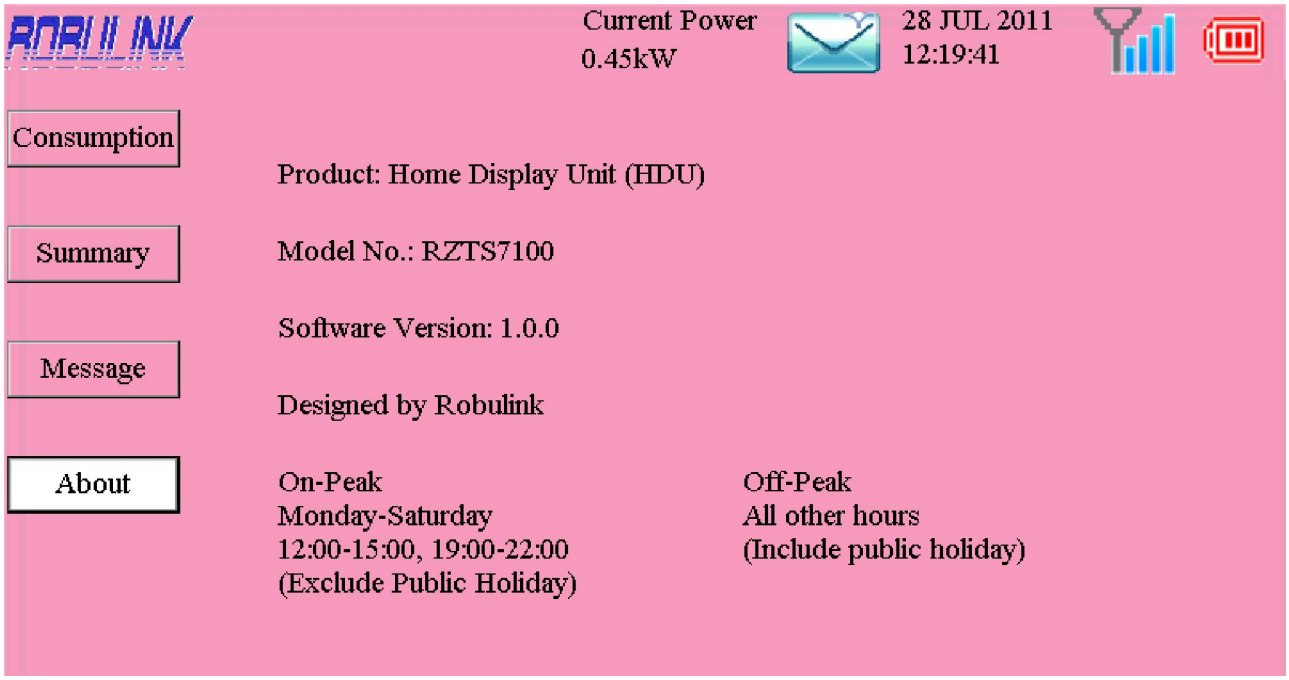

4 Important Instruction

Please pay attention for the following

A) Please read and keep this user manual

B) To avoid interference to the Repeater, please place the Repeater away from metal part/structure.

C) Do not place this apparatus at any place that is in high humidity or exposed to rain. Otherwise, the apparatus may be damaged.

D) Clean only with dry cloth. Do not use any chemical substances or cleaning agents to harm the surface and coating.

E) Do not install the apparatus in high temperature environment (eg. balcony or expose to sunlight).

F) Do not install the apparatus near any heating sources such as radiators, heat registers, stoves, or other apparatus that will produce heat.

G) Always connect the apparatus to power supply and to maintain the network connection.

H) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

I) Use only the specified accessories or equipment provided by manufacturer

J) Place the Repeater to a suitable location for strong signal coverage for HDU

K) Ensure the battery is in good condition

Do not charge the HDU in high temperature environment.

No need to discharge the battery.

When the battery is empty, the apparatus can only be turned on after the battery charging starts for at least 1 minute

5 FAQ

5.1 How can I compare the On-Peak ratio？

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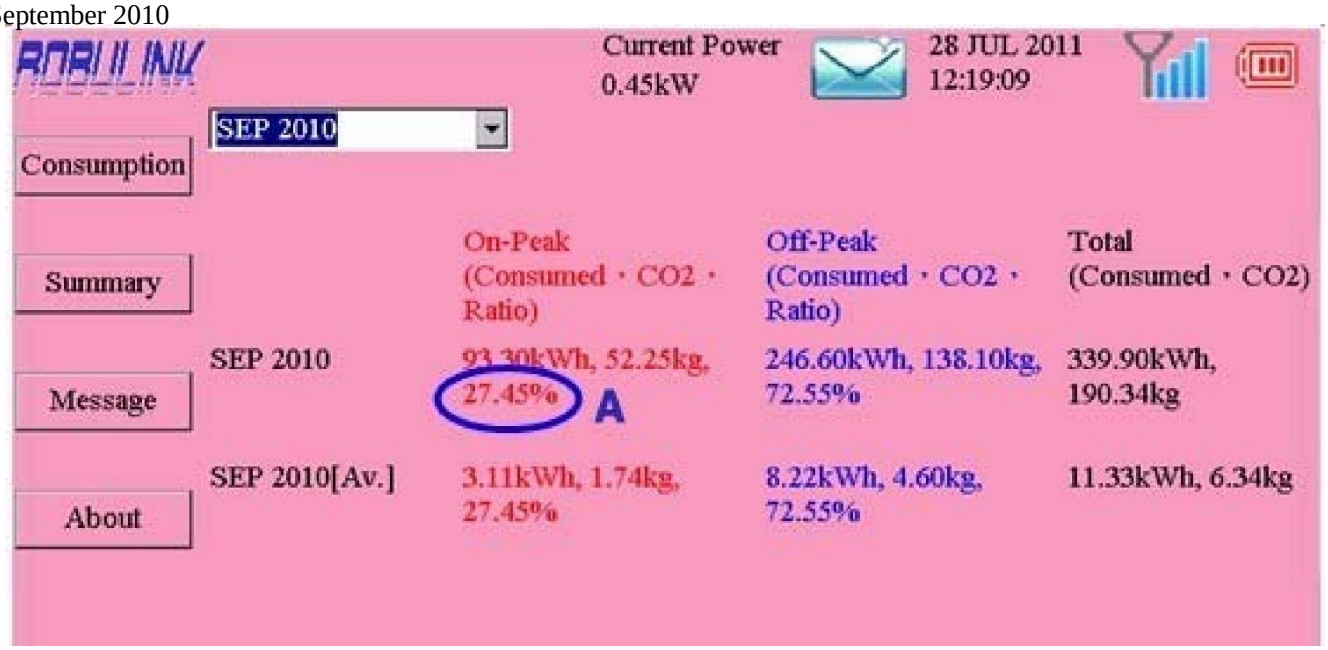
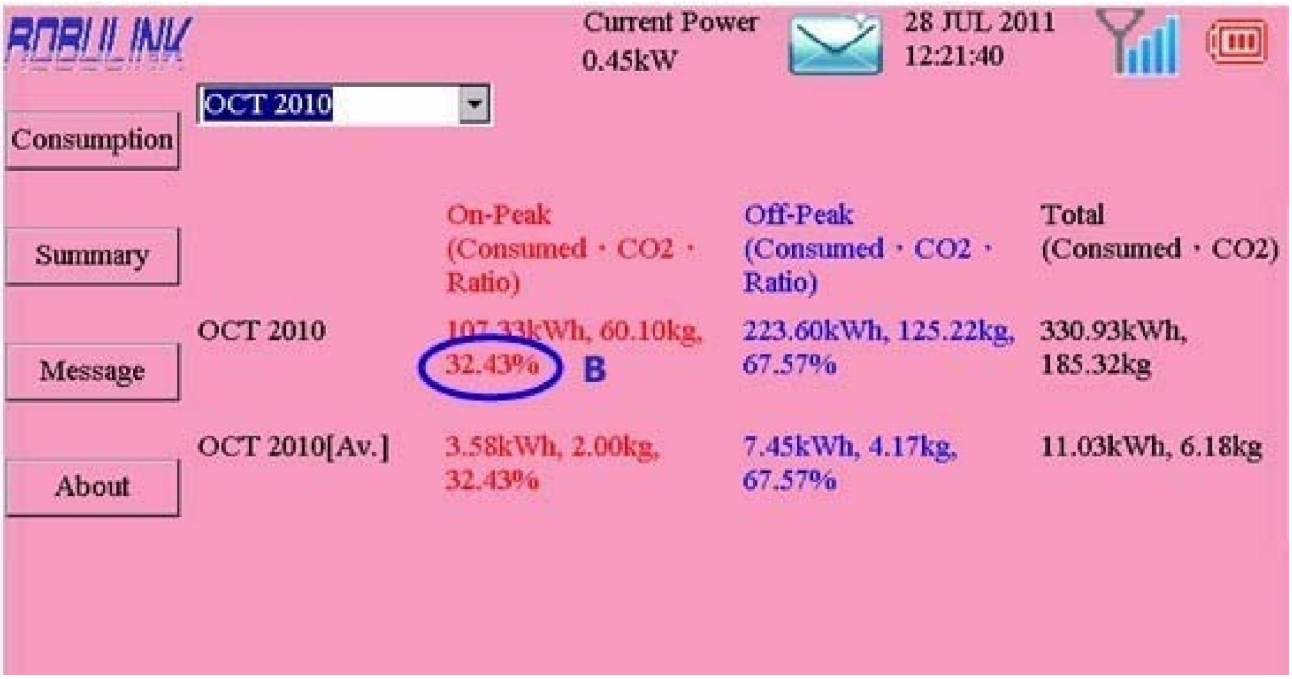
In below example, the On-Peak between Sep. & Oct. can be compared between the values of A & B

September 2010



October 2010



5.2 Will the radio signal from the Repeater and HDU affect our health?

The design of Repeater and HDU are low power electronic and electrical apparatus with nil adverse effect to human exposure. Therefore, the Repeater and HDU are safe to use in your home.

5.3 Why the data or barare in grey?

Please make sure HDU is connected to the network

Please check if this grey data are within 3 days or not. The system will automatically recover the data

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if it is within 3 days.

Otherwise, please contact our service center to follow up.

5.4 What is the energy consumption of the HDU & Repeater？

The energy consumption of HDU & Repeater is below 4kWh per month

5.5 How can I know the Repeater and HDU are working normally?

Please check the signal of HDU and Repeater (Refer to section 3.3.3)

5.6 Why the HDU cannot be turned on?

The HDU cannot be turned on if it is under low battery condition, please retry after charging the HDU.

5.7 What is the function of the Repeater?

The Repeater is used to collect energy consumption information from the equipment within the meter room and then pass the information to the HDU. Therefore, the Repeater must be always connected to a socket outlet for maintaining the information service.

5.8 Is there any problem if the Repeater doesn’t connect to a socket outlet?

If the Repeater does not connect to a socket outlet supply, it cannot ensure the HDU working normally all the time. The values in the HDU may not be accurate.

5.9 If the Repeater is turned off but the HDU signal is existed, does it mean the HDU still work even the

Repeater is turned off?

It cannot ensure the HDU can work at any place even if HDU has signal in case the Repeater is turned off. Please maintain the Repeater turning on and connecting to the network all the time.

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